

Orion Weekly Summary



Week ending June 14, 2008

Countdown to Pad Abort-1: 180 Days



The Pad Abort-1 SepRing assembly frame (photo above) was transported to the hangar and rested on the Workmanship Test Fixture. Final installation will be completed at the hangar.



The Pathfinder Forward Bay Structure (photo above) was bonded to the outer mold line completing the Forward Bay Cover.



Fabrication of the 20,000 lb Crew Module Pallet test article began and is scheduled for completion in July. Energy absorbing struts to be used for initial tests are being fabricated for delivery July 17. Tests will be performed to verify and characterize performance.



Pad Abort-1 Forward Bay Cover integration (Photo above).



The Launch Abort Systems Ground Support Equipment (GSE) was delivered to White Sands Missile Range (photos above). The delivery

included the Assembly and Integration Trailer (AIT) bed, rotation ring, forward and aft trucks, and gooseneck, an integration table, an extension frame, the canard dolly, numerous work stands, and toolboxes.

The first deliverable Launch Abort System (LAS-1), Abort Motor (AM), was cast. The mixing and casting processes were a success, as was the previous mix for the static test motor, ST-1. The LAS-1 AM is will come out of cure June 16 and will be used in the Pad Abort-1 test flight.

The Launch Abort System-1 Jettison Motor, used for the upcoming Pad Abort-1 test, was mixed and cast.

The redesign and fabrication of the female Pyramidal Separation Mechanism (PSM) began. Three sets of PSM Proof of Concept test hardware will be fabricated. The first set will be fabricated at Lockheed Martin and the second at two competing vendors with one vendor making one of the two mating halves. The first set will be finished next week.



LADDERS continues development of the CLL airbag system with the team of ILC Dover and Airborne Systems. An interim review of the prototype fabrication and deployment demonstration task took place June 12 at Airborne Systems. A prototype airbag assembly is being fabricated which will be used for inflation demonstrations in August.



The Integrated Environmental Test Facility

The Reverberant Acoustic Test Facility first foundation pour forms are being removed and forms being placed for the second foundation pour (Photo above). The second foundation pour of the stem walls on June 17 is estimated to be a 4 hour duration of 80 yards of high strength, high density concrete.

White Sands Missile Range (WSMR) Test Facilities

The concrete pour for the 9 inch thick concrete on the south side of the launch pad (south of the 3 ft thick concrete central portion of the launch pad) is complete. Forms are being constructed for the 9 inch thick concrete on the north side of the launch pad. These 9 inch thick concrete areas are concrete aprons around the launch pad available for stacking, ground integration, moving equipment, and other operations around the central launch mount. The concrete pour was completed for the north gantry rail foundation, and the north gantry rail has been installed. A gate has been installed on the LC-32 east road at the Operations Support Trailer to act as an entry control point into the LC-32E launch facility.



Michoud Assembly Facility construction continues in support of Orion Production:

Universal Weld System #2 Site Prep (Photo above):



- Completed excavation backfill
- Installed ground moisture barrier
- Area prepped for next concrete pour
- Construction 24% complete.

Tooling Relocation continues:

- Crane rail installation for two 2-ton cranes
- Electrical/mechanical utility installation (Photo above left)

The Lockheed Martin Orion Project team completed assembly of a full-scale Crew Module Aft Bay Subsystem mockup in Johnson Space Center's Space Vehicle Mockup Facility. The mockup represents a full-scale, 3-dimensional layout of the Computer-aided design. This mockup will help the design team assess flight and ground crew reach and accessibility to hardware, data cable, as well as power and life support systems.

A 1/20th scale model of the Orion crew exploration vehicle was shipped to the San Diego Air & Space Museum to be included in its Star Trek exhibit sponsored by CBS. This six-month exhibit, slated to open the week of June 21, will also include a 1/20th scale model of the Ares crew launch vehicle and additional NASA educational materials.

NASA and ATK issued a joint press release regarding the June 13 launch abort motor igniter test.
